Effect of herbal water, ozonated water, water and chlorhexidine mouthrinses on oral health status of children- A randomized controlled trial

Aim: To evaluate the antibacterial effect of herbal water, ozonated water and chlorhexidine mouthrinses on salivary streptococcus mutans level and to assess their effectiveness of these mouthrinses on the oral health status of children.

Methodology: A parallel multi-arm randomized controlled trial was conducted in 100 children aged 10-12 years. Debris index-simplified (DI-S), Calculus index-simplified (CI-S), Oral hygiene index-simplified (OHI-S) score, S. mutans and total microbial count were recorded. They were randomly divided into 4 equal groups (n=25): HW- Herbal water, OW- Ozonated water, W- Water and CHX- Chlorhexidine. Data collection were repeated after 15 days and 30 days. Saliva samples were used to evaluate S. mutans and total microbial counts. *Invitro* evaluation of mouthrinses by measuring the zone of inhibition against S. mutans were done. Results were tabulated and analyzed statistically.

Results: Ozonated water was more effective in reducing DI-S score. Herbal water was the only mouthrinse that was found to be effective in reducing CI-S score. Ozonated water showed maximum reduction in overall OHI-S score after 15 days mouthrinse usage. Herbal water was more effective in having least OHI-S score at the end of 30 days. Chlorhexidine was found to be most effective in reducing S. mutans count. Herbal water was found to be effective in reducing total microbial count after 15 days whereas CHX and ozonated water was effective in reducing total microbial count at 30 days. *Invitro* evaluation showed the maximum zone of inhibition against S. mutans in herbal water.

Conclusion: Herbal water and ozone water can be used as an alternative to chlorhexidine in maintaining the oral health status.